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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/733,092      | 12/11/2003  | Yasutake Furukoshi   | 0941.68792          | 2445             |

7590 11/09/2005  
Patrick G. Burns  
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EXAMINER

NGUYEN, KIMNHUNG T

| ART UNIT | PAPER NUMBER |
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2677

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/733,092

Applicant(s)

FURUKOSHI, YASUTAKE

Examiner

Kimnhung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Preliminary Amendment filed on 12/11/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/061,543.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/11/03, 4/5/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This application has been examined. The claims 1-3, 6-8 are pending. The examination results are as following.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US 6,329,975).

Regarding claim 1, Yamaguchi discloses in fig. 3, a timing controller for liquid-crystal display panel comprising: a data enable signal detection circuit (11) which detects a data enable signal applied to the timing controller, the data enable signal being transferred together with image data (see picture signal, and see detection circuit 11 has detected the data enable signal having the effective display data period, see col. 5, lines 10-13); and a timing generating circuit (7) which controls a display timing of image data to be displayed on the liquid-crystal display panel including a start timing of display on the bases of the data enable signal detected by the data enable signal detection circuit (11) and a clock externally supplied (see dot clock) the start

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timing of display being independent of vertical synchronizing signals externally supplied (see fig. 4, 6A-6B).

However, Yamaguchi does not disclose the start timing of display being independent of horizontal and vertical synchronizing signals externally supplied.

Prior art of figs. 2A-2B discloses the timing controller (6, 7, 11) having the start timing of display being independent of horizontal and vertical synchronizing signals externally supplied.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the using the start timing of display being independent of horizontal and vertical synchronizing signals externally supplied as taught by figs. 2A-2B of prior art into the display system of Yamaguchi (fig. 3) because this would receive a horizontal synchronization signal and vertical synchronization signal from the generation circuits having independent outputs of the display system.

Regarding claim 2, Yamaguchi discloses the timing controller, wherein the timing generating circuit (7) comprises a first circuit (8) which generates, from the data enable signal, an inherent first start pulse (because the controller having start pulse generation circuit) which starts driving each data line of the liquid-crystal display panel and a second circuit (9) which generates, from the data enable signal, a second start pulse which starts driving scanning lines of the liquid-crystal display panel (see the controller having start pulse generation circuit connected to the G 4).

Regarding claim 3, Yamaguchi discloses the timing generating circuit (7) comprises a circuit part (selector 9) which detects a beginning of each frame on the basis of the data enable signal (see col. 5, lines 9-13).

Regarding claim 6, Yamaguchi discloses in fig. 3, a method of controlling display timing for a liquid-crystal display panel, the method comprises the steps of:

(a) detecting a data enable signal applied together with image data (see col. 5, lines 10-13).

(b) controlling the display timing of the image data to be displayed on the liquid-crystal display panel including a start timing of display on the basis of the data enable signal detected by the step (a) and a clock (see dot clock) applied to the liquid-crystal display panel.

However, Yamaguchi does not disclose the start timing of display being independent of horizontal and vertical synchronizing signals external supplied.

Prior art of figs. 2A-2B discloses the timing controller (6, 7, 11) having the start timing of display being independent of horizontal and vertical synchronizing signals externally supplied.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the using the start timing of display being independent of horizontal and vertical synchronizing signals externally supplied as taught by figs. 2A-2B of the prior art into the display system of Yamaguchi (fig. 3) because this would receive a horizontal synchronization signal and vertical synchronization signal from the generation circuits having independent outputs of the display system.

Regarding claim 7, Yamaguchi discloses in fig. 3, a liquid-crystal display device comprising a liquid-crystal display panel having signal lines (S1-S4) and scanning lines (G1-G4); a data driver (3) which drives the signal lines; a gate driver (2) which drives the scanning lines; and a timing controller (6, 7, 11) controlling a display timing of image data to be displayed on the liquid-crystal display panel the timing controller comprising a data enable signal detection

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circuit which detects a data enable signal applied to the timing controller; and a timing generating circuit which controls the display timing on the basis of the data enable signal detection circuit. However, Yamaguchi does not disclose the start timing of display being independent of horizontal and vertical synchronizing signals externally supplied. In figs 2A-2B of the prior art discloses as discussed above.

Regarding claim 8, Yamaguchi discloses in fig. 3, the timing generating circuit comprises a first circuit (8) which generates, from the data enable signal, a first start pulse (6) which starts driving each of the data lines (S1-S4), and a second circuit (9) which generates, from the data enable, a second start pulse (7) which starts driving the scanning lines (G1-G4).

### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number is (571) 272-7698. The examiner can normally be reached on MON-FRI, FROM 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimnhung Nguyen  
October 24, 2005

AMR A. AWAD  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "AMR A. AWAD", is written over the printed name and title.